



NOAA in the **CAROLINAS**
National Oceanic & Atmospheric Administration



April 21-22, 2010 Meeting in Asheville, NC:

Climate Services for North and South Carolina

Strategies for Engagement

Ned Gardiner

Visualization Project Manager

Contractor to Climate Program Office



Scientific Panel Recommends **Anti-Pollution** Solution to Global Warming

Scientific Panel Recommends **Nuclear** Solution to Global Warming

Scientific Panel Recommends Anti-Pollution Solution to Global Warming

By Jeffrey Cohen
November 15, 2006

The American Academy of Environmental Scientists, a panel consisting of leading U.S. experts, today recommended stronger anti-pollution regulations as a response to global warming.

"Fossil fuels such as coal, natural gas, and oil are the leading cause of global warming," explained Dr. Jonathan Brazil, head of the Academy. "To reduce the volume of heat-trapping gas generated by such fuels, we strongly recommend that the government adopt stronger anti-pollution regulations, strengthening ones adopted in 1970s and 1980s." Brazil said.

The group's recommendation was made in a report that examined the extent and causes of global warming, and the likely consequences that would occur if global warming were not reversed.

Highlights from the AAES Report:

- "Scientific evidence indicates irrefutable proof of global warming. Some of the most dramatic effects are visible in the Arctic, where rising temperatures and melting ice have dramatically changed the region's unique landscape and wildlife."
- "Global warming is caused by carbon dioxide and other heat-trapping gases that are emitted primarily by the burning of fossil fuels. These gases at high levels are dangerous for humans and ecosystems."
- "If it continues, global warming could have catastrophic weather, ocean, and ecosystem consequences. Rising sea levels will be extreme heat and drought, rising sea levels, and higher frequency of major storms. Such conditions will endanger natural property and resources, diminish the reliability of major cities, and threaten the probability of our food, health, and shelter."
- "Fossil fuels such as coal, natural gas, and oil are the leading cause of global warming. Accordingly, we strongly recommend that government adopt stronger anti-pollution regulations to reduce the volume of heat-trapping gas generated by such fuels."

Scientific Panel Recommends Nuclear Solution to Global Warming

By Jeffrey Cohen
November 15, 2006

The American Academy of Environmental Scientists, a panel consisting of leading U.S. experts, today recommended revitalization of the nation's nuclear power industry as a response to global warming.

"Fossil fuels such as coal, natural gas, and oil are the leading cause of global warming," explained Dr. Jonathan Brazil, head of the Academy. "To reduce the volume of heat-trapping gas generated by such fuels, we strongly recommend broad scale commercial development of nuclear power, including the repeal of government regulations from the 1970s and 1980s that now discourage private investment in the nuclear industry." Brazil said.

The group's recommendation was made in a report that examined the extent and causes of global warming, and the likely consequences that would occur if global warming were not reversed.

Highlights from the AAES Report:

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- "Fossil fuels such as coal, natural gas, and oil are the leading cause of global warming. Accordingly, we strongly recommend that government adopt commercial development of nuclear power to reduce the volume of heat-trapping gas generated by such fuels."



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Counting Blossoms along a Canyon Trail

Featured Article, April 15, 2010

by Zack Guido

"Curiosity is a cruel master," says Dave Bertelsen. Over the past 25 years, he has hiked over 12,000 miles through a desert canyon, just to see what was blooming.

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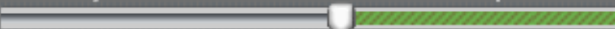


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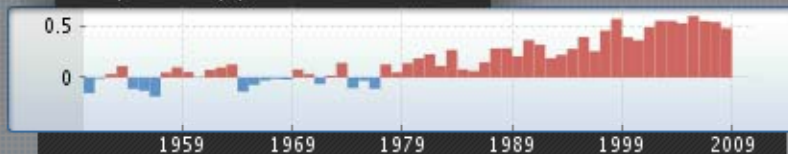
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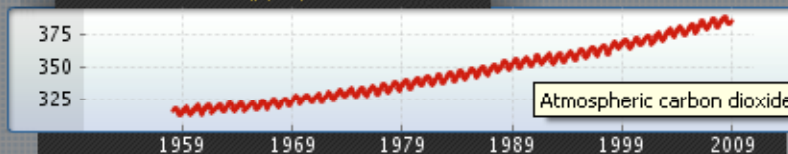
1950  2010

Click any graph for more information.

Temperature (C)

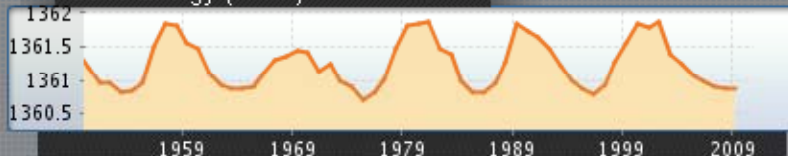


Carbon Dioxide (ppm)

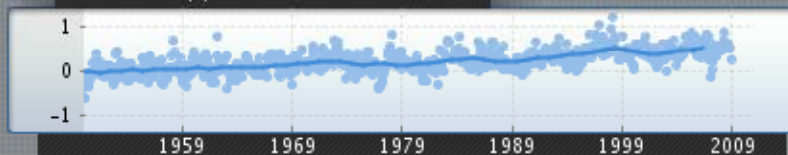


Atmospheric carbon dioxide concentration at Mauna Loa, Hawaii (click for more.)

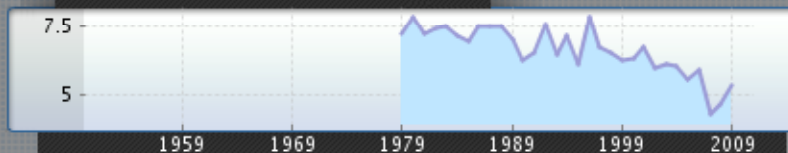
Sun's Energy (W/m²)



Sea Level (ft)



Arctic Sea Ice (annual min. in million km²)



Past
Weather

City, State or Zip

04-15-2010

Lookup

News

NOAA Celebrates Recovery Act Projects during Earth Week

Fri, 16 Apr 2010

This coming week, Commerce Secretary Gary Locke, Under Secretary for Oceans and Atmosphere and NOAA Administrator Dr. Jane Lubchenco, and other dignitaries will celebrate Earth Week at eight of the 50 coastal and Great Lakes habitat restoration projects funded through the American Recovery and Reinvestment Act of 2009.

NOAA: U.S. Averaged Warmer-than-Normal, Drier-than-Normal in March

NOAA's State of the Climate report shows the March 2010 average temperature for the entire contiguous United States was warmer-than-average with several New England states experiencing one of the warmest March's on record. Average precipitation for the U.S. was below normal, but heavy rainfall set March records in parts of the Northeast.

GOES-15 Weather Satellite Captures Its First Image of Earth

Tue, 06 Apr 2010

The black and white full-disk image shows North and South America with a storm system visible across the United States, indicated by a drape of clouds from New England westward to the central Plains. Further, west is a cold front over the Rocky Mountains. Mostly clear skies are seen over the mid-Atlantic, southeastern U.S., Gulf of Mexico, California and Mexico.

NOAA: Sixth Warmest February in Combined Global Surface Temperature, Fifth Warmest December-February

Tue, 16 Mar 2010

Last month's combined global land and ocean surface temperature made it the sixth warmest February ever recorded. Additionally, the December 2009 – February 2010 period was the fifth warmest on record averaged for any similar three-month Northern Hemisphere winter-Southern Hemisphere summer season, according to scientists at NOAA's National Climatic Data Center in Asheville, N.C.



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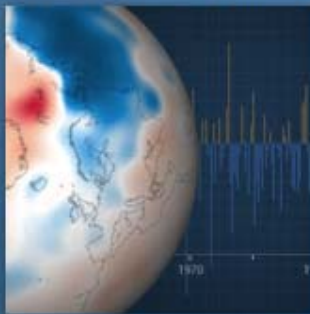
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Past & Present Climate ►



Climate at a Glance

Read and explore summaries and digests of recent climate-related phenomena from NOAA's distributed climate service community.

Predictions ►

Daily » Monthly » Seasonal



Looking Ahead

Explore how climate phenomena are likely to unfold in the coming days, weeks, and months.

NOAA Partners ►



Locate Climate Expertise

Use an interactive map to find national and regional climate services.

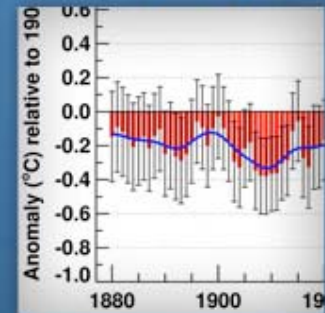
Climate & You ►



Utilizing Climate Data

Climate information is essential for business and community planning. These resources focus on needs of specific sectors of society.

Data Library ►



Visualizing & Explore

NOAA is a leading provider of access to data from research projects, stations, and satellites to the nation and the world.

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Featured



CLIMATE CHANGE WILDLIFE AND WILDLANDS A Toolkit for Formal and Informal Educators

EXPLORE YOUR ECOREGION

TOOLKIT MATERIALS

ABOUT THIS PROJECT



Climate Change Toolkit for Wildlife and Wildlands

This kit is designed to aid educators in teaching how climate change is affecting our nation's wildlife and public lands, and how everyone can become a "climate steward."

[Learn More »](#)
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Education Sections



Teaching Resources

Student activities, interactive tools, labs and lesson plans present climate science. Lessons are correlated to education standards.



Professional Development

Professional development opportunities to support educators in learning about climate.



Multimedia

Movies, visualizations, multimedia galleries, interactive media and educational games about climate science.

Education Purpose

"To protect fragile ecosystems and to build sustainable communities that are resilient to climate change - including extreme weather and climate events - a climate-literate citizenry is essential"

► Climate Literacy, 2009

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Calendar of Climate-related Events

+ NSTA Annual Conference

March 18-24, 2010

+ Adapting in the Mid-Atlantic

March 23-25, 2010

+ APA National Planning Conference

April 10-13, 2010

+ Gulf of Mexico Community Workshop

April 19-21, 2010

+ NOAA in the Carolinas

April 21-22, 2010

+ Capitol Hill Ocean Week

June 8-10, 2010

+ NACo Annual Conference

July 16-20, 2010

+ Diagnostics & Prediction Workshop

October 4-7, 2010

NOAA in the Carolinas Annual Meeting

Where: Asheville, NC**When:** April 21-22, 2010

The meeting is designed for NOAA employees, funded researchers, and the people they serve throughout North Carolina and South Carolina. The meeting will focus on three themes, specifically targeting the Carolinas: Climate Products and Services, Engagement and Service Delivery, and Climate Science. Leaders of climate services and science will offer their perspectives on each of those topics, but the majority of the meeting will be held in breakout groups targeting Marine & Coastal Ecosystems, Energy & Transportation, Human Health and Society, and Water Resources for Agriculture and Ecosystems.

The meeting's registration [website](#) is now live.

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Understanding Climate - Fact Sheets

+ Carbon Monitoring

NOAA has a long history in monitoring greenhouse gases to improve our understanding of the global carbon cycle and how greenhouse gases affect global and regional climate and the world's oceans.

[GET THE FACT SHEET \(PDF\)](#)

+ NOAA Climate Services

NOAA's integrated climate services document the past, monitor the present, project the future, and assess the impacts of climate.

[GET THE FACT SHEET \(PDF\)](#)

+ Drought

Droughts are a common feature of U.S. climate and are among the most damaging of all natural hazards, with annual economic losses for the U.S. often in the billions of dollars.

[GET THE FACT SHEET \(PDF\)](#)

+ Ocean Acidification

Ocean acidification will have long-term implications for the global carbon cycle and climate, as well as coastal and marine ecosystems.

[GET THE FACT SHEET \(PDF\)](#)

+ Aerosols and Climate

Improving our understanding of the impacts of aerosols on Earth's climate is essential for providing accurate climate forecasts and the information needed to cope with (adaptation) and reduce (mitigation) climate change.

[GET THE FACT SHEET \(PDF\)](#)

+ Atlantic Hurricanes and Climate

This document, developed by numerous NOAA researchers, presents the state of the science regarding the links between Atlantic hurricane activity and climate variability and change.

[GET THE FACT SHEET \(PDF\)](#)

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Presentation Library

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Use Keyboard [left arrow] & [right arrow] to control slideshow.

Human Contributions to Global Climate Change

Robert Simmon and David Herring
NASA and NOAA
November 2009



PLAYING

[Download the full presentation](#)

Global Climate Change Impacts in the United States

Susan Joy Hassol, Anne Waple and Paul Grabhorn
USGCRP and NOAA
November 2009

[Download the full presentation](#)

Global Climate Models

Keith Dixon and Marian Westley
NOAA Geophysical Fluid Dynamics Laboratory
November 2009

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Assessment Reports

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[United States Global Change Research Program \(USGCRP\)](#)

Select A Report

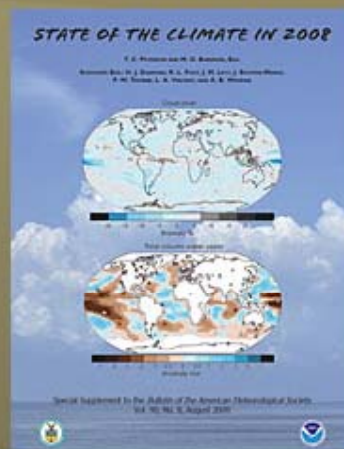
[Annual State of the Climate Report: 2008](#)

[Arctic Report Card: 2009](#)

[Scientific Assessment of Ozone Depletion: 2006](#)

Report Info & Downloads

Annual State of the Climate Report: 2008



NOAA's Annual State of the Climate Reports document each year's weather and climate events around the world and put them into accurate historical perspective, with a particular focus on unusual or anomalous events. The global mean temperature in 2008 was slightly cooler than that in 2007; however, 2008 still ranks within the 10 warmest years on record. The 2009 Annual State of the Climate Report is expected to be published in July 2010.

[Get the full report](#)

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April 21-22, 2010 Meeting in Asheville, NC:

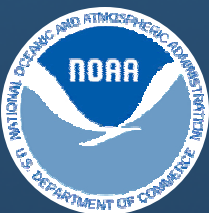
Climate Services for North and South Carolina

COMMUNITY CONVERSATIONS ON CLIMATE



NOAA's Assessment Services

In Absentia: Anne M. Waple
Manager, NOAA's Assessments Services

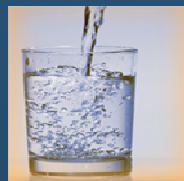
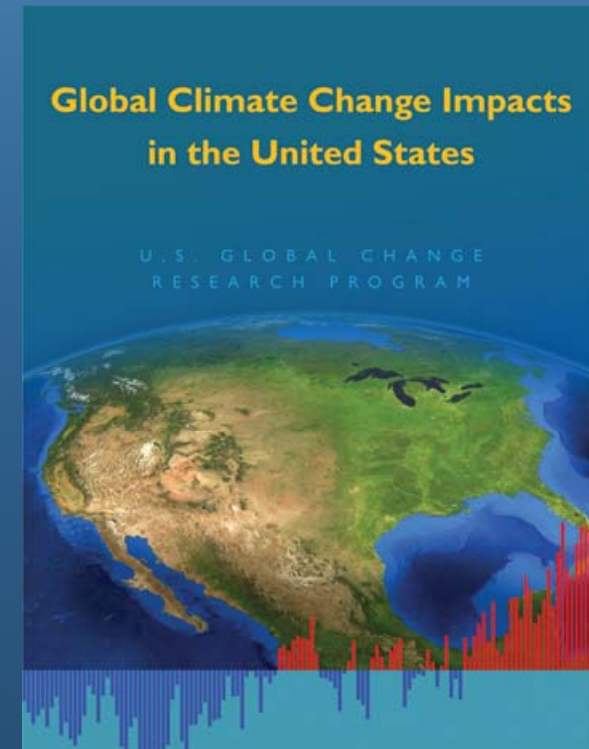


April, 2010

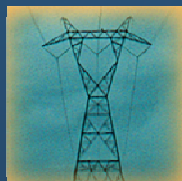


Global Climate Change Impacts in the United States (2009)

- 9 regions
- 7 sectors
- an 'agenda for science'
- Some focus on Adaptation



Water
Resources



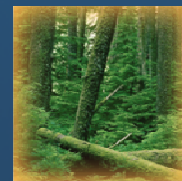
Energy Supply
and Use



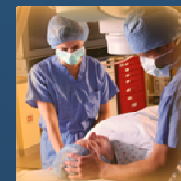
Transportation



Agriculture



Ecosystems



Human
Health



Society

CHICAGO CLIMATE ACTION PLAN





Not possible to address climate change impacts and responses for each sector at local, regional, and national scales on an ongoing basis

Instead...

NRC, 2007: “using analysis of large-scale trends and identification of priority issues as the context for focused, smaller-scale impacts and response assessments at the regional or local level.”



Core competencies and focus areas:

- Data access and transparency
- Modeling, including downscaling
- Research and other activities, e.g. attribution services
- Communication, education



Next steps (April 2010):

- RISAs and RCCs now proposing their activities for Assessment services
- Establishing technical support unit
- Actively working on strategic plan for National Assessment
- Engaging in data, model, web infrastructure planning, including workshops



Engagement Strategy

- Discussion Support
- Focus on Your Audience
- Join Communication and Assessments



Regional Engagement, Education, and Service Delivery

- How do you assess stakeholder needs/wants for climate information?
 - What new/innovative methods should we be using?
 - In what real-world contexts (e.g., national security, human health, public safety, economics, politics, etc.) do you/can we engage audiences and extend climate information?



Regional Engagement, Education, and Service Delivery

- What methods do you/should we use to disseminate climate information?
- How do you/should we address the issues related to the uncertain nature of climate?
 - How do/should we deal with the uncertainties related to the science of (and predictions related to) climate phenomena?
 - How do/should we deal with skeptical audiences when extending climate information?



Regional Engagement, Education, and Service Delivery

- What are your sources of climate information?
 - Has this information “informed” decision-making?
 - What information seems to be lacking?
- Discuss opportunities relative to the other sectors meeting concurrently.